Statewide Transportation Operations Center

July

2015

MONTHLY PERFORMANCE MEASURES

MDOT Michigan Department of Transportation

MDOT'S MISSION:

Providing the highest quality integrated transportation services for economic benefit and improved quality of life.

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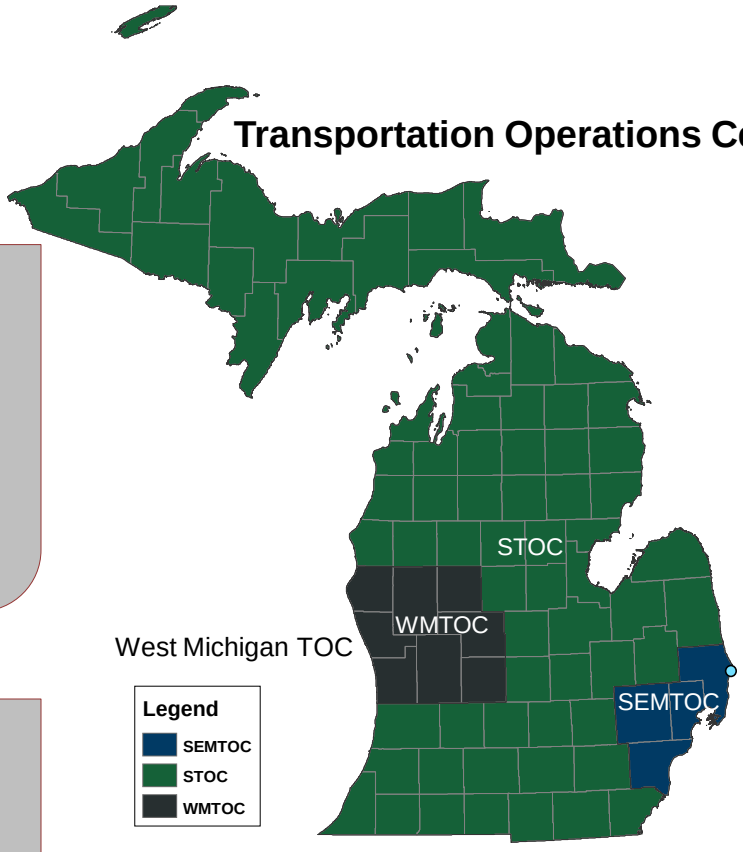
Report Compiled By URS

Transportation Operations Centers (TOC)

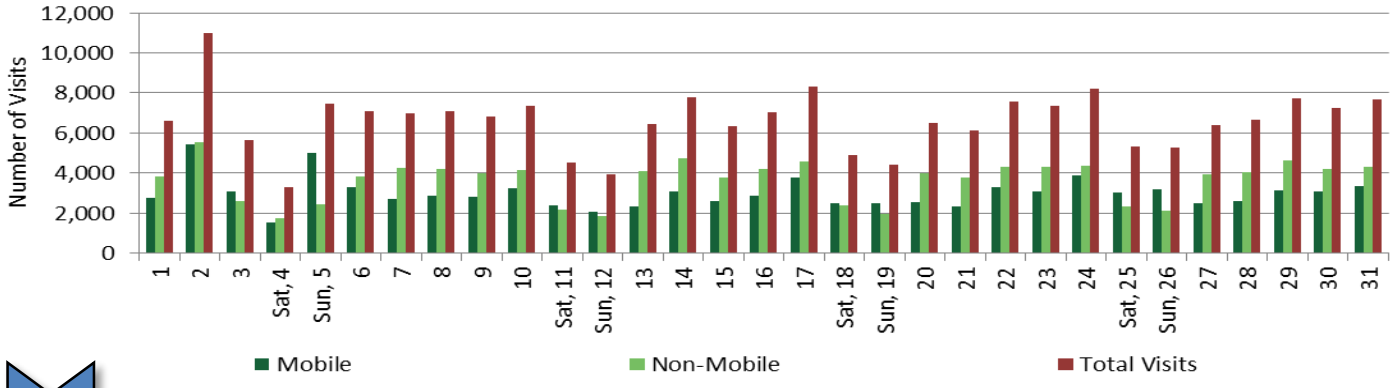


The Statewide Transportation Operations Center (STOC) is responsible for traffic operations along more than 1,200 miles of freeway in the state of Michigan. The STOC has Intelligent Transportation Systems (ITS) equipment throughout the five (5) Michigan Department of Transportation (MDOT) regions including: Bay, University, Southwest, Superior and North.

The West Michigan TOC (WMTOC) is responsible for traffic operations along 45 miles of freeway, while also covering 18 non-freeway trunkline miles in the greater Grand Rapids area and Grand Haven area.

The Southeast Michigan TOC (SEMTOC) is a hub of ITS technology applications at MDOT. SEMTOC is a world-class traffic operations center where staff oversees a traffic-monitoring system composed of more than 400 freeway miles. The Blue Water Bridge TOC (BWB TOC) connects I-94 and I-69 with Ontario Highway 402, and is one of the fastest links between the United States and Canada.

Mi Drive Website Visits



A "visit" is counted each time a user accesses the **www.michigan.gov/drive** website, regardless of the number of pages viewed within the site. "Mobile" visits are those where the site is accessed using a mobile device, while "Non-Mobile" visits are those where the website is accessed from a computer.

Control Room Activity

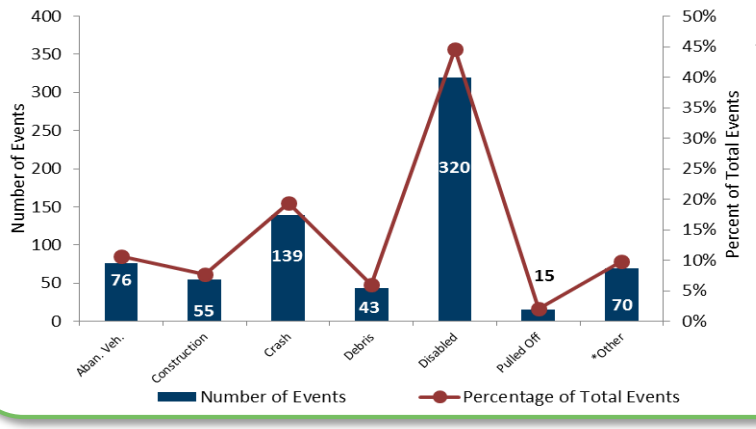
Event: A task in which the control room operator (CRO) is involved. Multiple categories of events exist (e.g., incident, construction, weather or special event).

Call: Any phone call that comes into or goes out of the control room. Multiple calls may be associated with one event.

Incident: An event that impacts the shoulder, lane(s) or a ramp of a state of Michigan trunkline (e.g., crash, vehicle fire, debris or police situation).

Communication: Any phone call or e-mail that comes into or goes out of the control room.

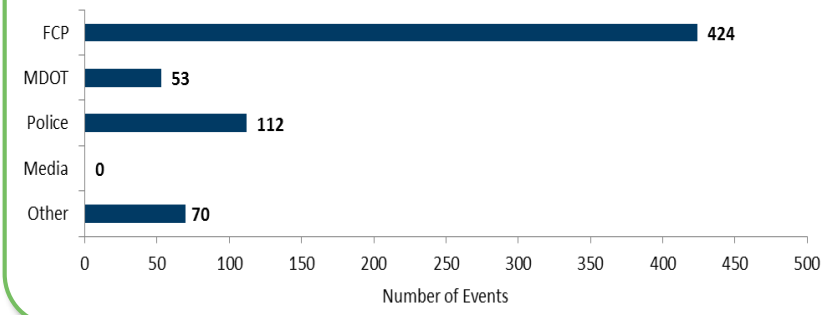
Events by Type



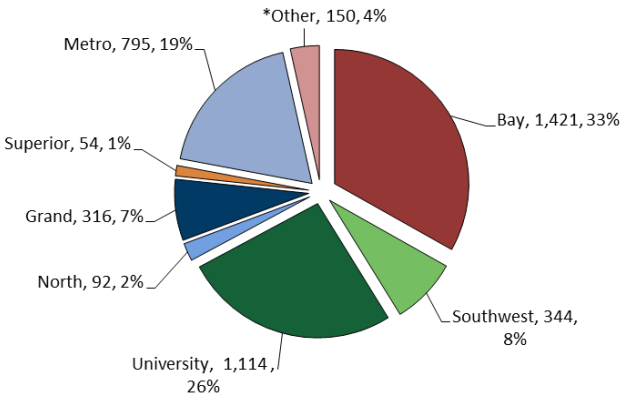
Control room **Events** consist of: Abandoned Vehicle, Construction, Crash, Debris, Disabled Vehicle, Pulled Off (using cell phone, checking a map, medical emergency or sleeping) and Other. CROs logged **718** **Events** along the freeways, including Freeway Courtesy Patrol (FCP) assists. The top **Event** categories are shown in the chart. *Other includes police situations, congestion, damaged, maintenance, other, weather, AMBER alerts, fire and special events.

CROs rely on various sources to detect **Events** that occur along the freeways. When an **Event** is detected, CROs are required to note which detection source was used. This not only ensures that the **Event** was detected by a reliable source, but also provides insight as to which sources are utilized most frequently.

Unplanned Events by Detection Source



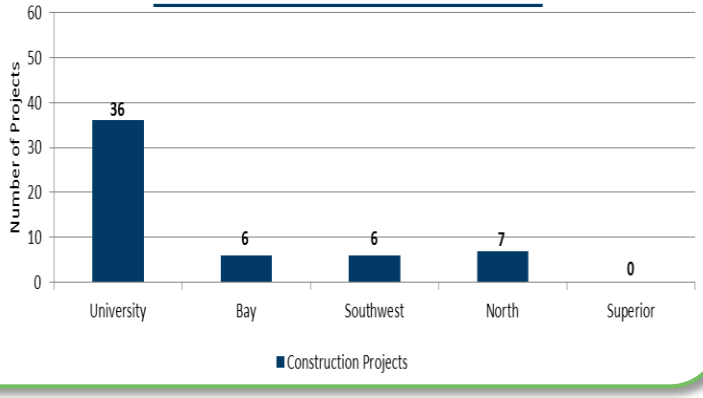
Communications by Region



CROs managed **4,286** notifications this month. The largest percentage of all **Communications**, **33 percent** (**1,421**), was between the control room and the **Bay Region**. *Other includes citizens and other state agencies.

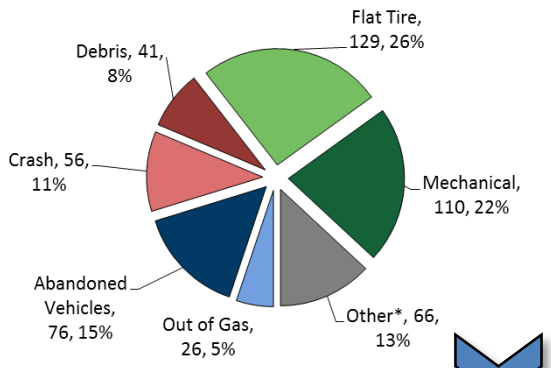
Because CROs are responsible for monitoring and managing traffic operations along the freeways, it is critical to know where construction activities are taking place and the impact that they may have on freeway operations. All STOC staff maintains frequent communication with MDOT staff to ensure that CROs are kept up-to-date on the locations and impacts of construction projects, general work crews and permit work.

Construction Events



Freeway Courtesy Patrol (FCP)

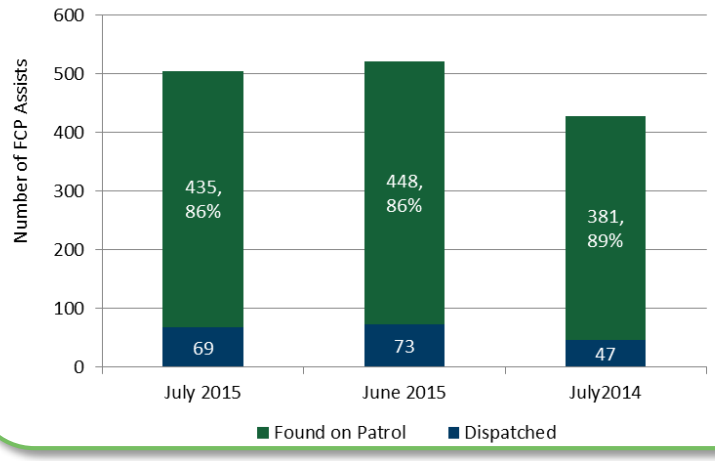
Assists by Type



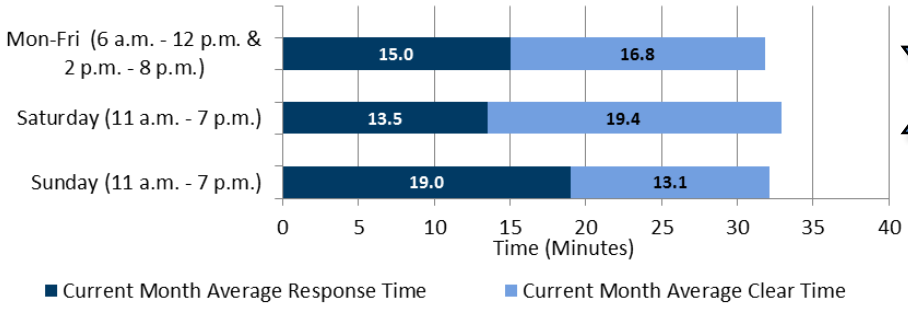
FCP is a federally-funded service provided to the public that assists stranded motorists, provides traffic control for **Incidents** and improves mobility along the freeways by keeping travel lanes clear of debris and disabled vehicles. This month, FCP had a total of **504** assists. The majority of the assists were classified as **Flat Tire** (**129**) this month. *Other includes cellular assists, declined service, FCP tow, non-FCP tow, gave directions, stand by, status check, gone on arrival (GOA) and transport.

FCP drivers are required to patrol their routes when not actively handling an assist. While on patrol, the driver may find an **Event** of which the control room is not yet aware. The driver will contact the control room via the 800 MHz radio system and the **Event** will be logged as "Found on Patrol." Likewise, if the CRO detects an **Event** that may require FCP involvement, CROs will dispatch the driver to the **Event** location and log it as "Dispatched."

FCP Assists Dispatched vs. Found on Patrol



Average Assist Times



The response and clear times for all FCP assists are logged by CROs. STOC has two FCP drivers working on two routes: one driver working in the Brighton area of I-96 and US-23 and the other driver working in the Ann Arbor area of I-94, US-23 and M-14.

FCP patrols more than 70 miles of freeway in the Ann Arbor and Brighton areas. FCP provided the most assistance along **US-23** this month (**214 assists**) and **I-94** experienced the highest assists per mile (**8.7 assists per mile**). The average response and average clear times for each freeway can be compared to the "Average Assist Times" graph which provides system-wide statistics by shift.

FCP Assists by Freeway

Freeway	Miles Patrolled	Total Assists	Assist Density (assists per mile)	Avg. Response Time (minutes)	Avg. Clear Time (minutes)
US-23	26.5	**214**	8.1	14.9	18.4
I-94	18.0	157	**8.7**	13.4	15.9
I-96	11.0	65	5.9	22.7	15.3
M-14	15.5	68	4.4	19.1	13.8
Totals/Averages	**71.0**	**504**	**7.1**	**15.4**	**16.6**

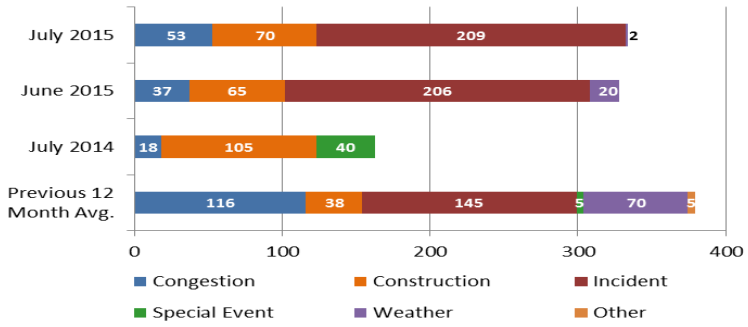
Most Utilized DMS for Unique Messages

Location	# Unique Messages	% of Total Unique Messages
WB I-94 @ Grove Road	27	8%
NB US-23 @ Bemis Road	25	7%
WB M-14 @ Joy Road	19	6%
EB I-96 @ Grand River Road MM 146.0	15	4%
EB I-94 @ Liberty Road	15	4%

There were **334** total unique messages that were displayed throughout STOC's ITS network. A "unique message" may be an incident, AMBER alert, construction or special event message.

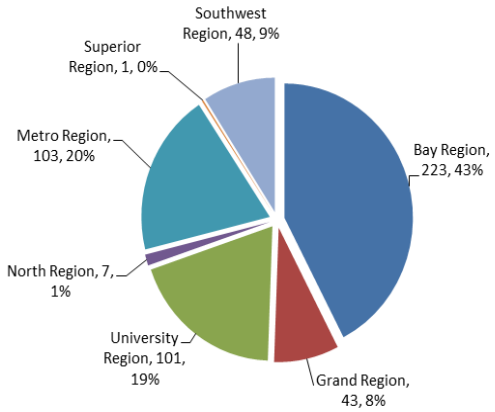
Travel time messages are routinely displayed when unique messages are not active. Travel times are "**updated**" every three minutes.

DMS Messages by Type



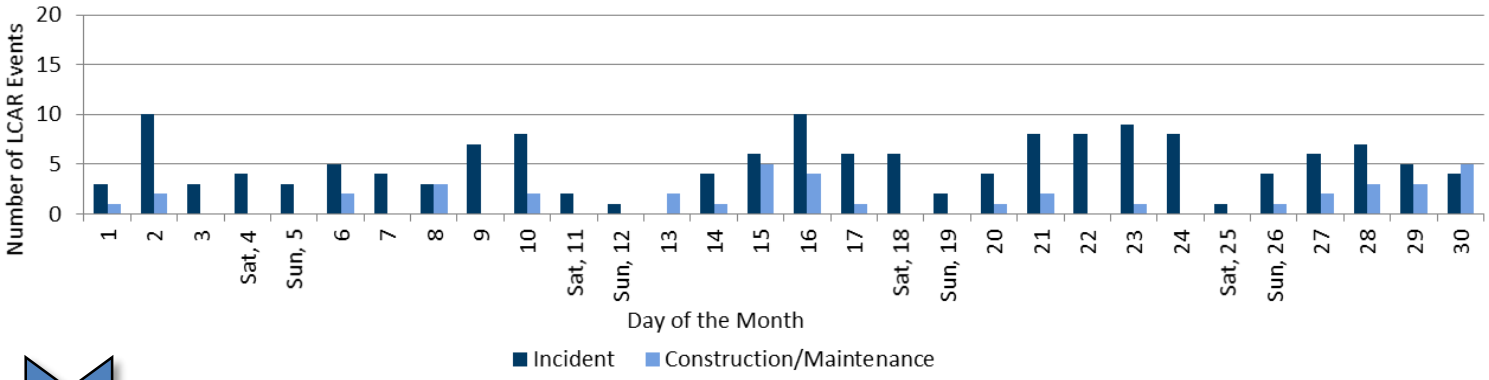
This graph shows unique DMS messages by type. Once a CRO receives notification from stakeholders regarding a specific event, the CRO utilizes DMS to send a message specific to the event type.

Stuck in Traffic Notifications



Travelers with smartphones or Web-enabled mobile devices can go to the Mi Drive website (**www.michigan.gov/drive**) and click on the "Stuck in Traffic?" link to report traffic delays or incidents. The graph above shows how many were reported (**526**) per MDOT region.

STOC LCAR Posts Sent to the Mi Drive Website



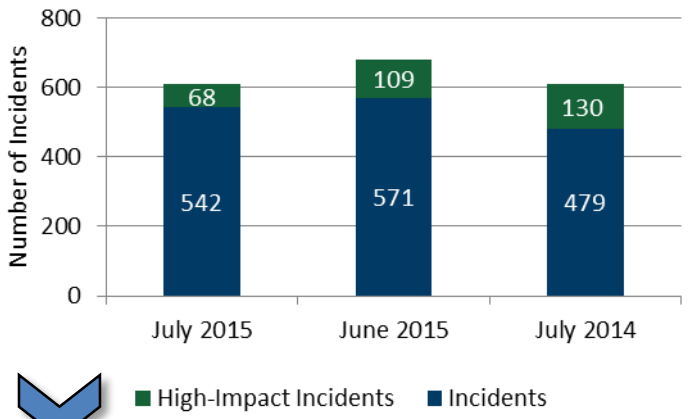
CROs are able to post **Events**, **Construction** and **Maintenance** information to the Mi Drive website using the Lane Closure and Restrictions (LCAR) tool. Each post that was sent to the website this month is shown in the chart above. Dates without data did not experience any **Construction**, **Maintenance** or **Events**.

Incidents by Freeway

Freeway	Miles	July 2015 Total Incidents	July 2015 Incidents per Mile	July 2015 Average Duration	June 2015 Total Incidents	June 2015 Incidents per Mile	June 2015 Average Duration	July 2014 Total Incidents	July 2014 Incidents per Mile	July 2014 Average Duration
I-475	17	0	0.00	0.0	1	0.06	**314.0**	2	0.12	**330.0**
I-496	12	3	0.25	146.0	5	0.42	17.0	2	0.17	24.0
I-675	7	0	0.00	0.0	0	0.00	0.0	0	0.00	0.0
I-69	178	4	0.02	50.3	6	0.03	114.3	3	0.02	63.3
I-75 *	288	21	0.07	57.3	19	0.07	110.8	9	0.03	120.3
I-94 *	187	179	0.96	30.1	165	0.88	23.6	**190**	1.02	21.7
I-96 *	76	70	0.92	24.6	78	1.03	23.1	48	0.63	37.3
M-14 *	23	68	**2.96**	17.3	91	**3.96**	17.2	84	**3.65**	8.4
US-127	165	5	0.03	52.2	13	0.08	53.3	7	0.04	64.1
US-131 *	91	4	0.04	**153.5**	5	0.05	290.6	2	0.02	53.0
US-23	93	**221**	2.38	22.9	**225**	2.42	30.3	139	1.49	20.0
US-31 *	85	0	0.00	0.0	1	0.01	103.0	1	0.01	8.0
Total/Averages	**1,222**	**575**	**0.47**	**27.9**	**609**	**0.50**	**32.0**	**487**	**0.40**	**24.5**

US-23 experienced the highest total **Incidents** this month. Also, **M-14** had the greatest **Incident** per mile rate for the month. The longest average **Incident** duration during the current month occurred along **US-131.** This data is acquired from the LCAR tool completed by CROs. These are all the **Incidents** CROs were made aware of during the month of July. Note that this data does include Freeway Courtesy Patrol (FCP) assists. Not all trunklines are included in the table above, only those with significant traffic volumes that sustain routine **Incidents**. *The above figures are discounted and do not include those incidents on stretches of freeway managed by WMTOC, SEMTOC or BWBTOC.

Total Incidents



There were a total of **610** **Incidents** this month, **11 percent** of which were high-impact incidents. A high-impact **Incident** is one that results in a total freeway/roadway closure of one or both directions, a freeway-to-freeway ramp closure or an **Incident** leaving only one lane open.

Each time a high-impact **Incident** occurs, CROs are required to provide e-mail notification to a pre-defined distribution list of individuals and organizations. The notification includes the location of the **Incident**, degree of closure, reason for the closure, the source that verified the **Incident** and any other pertinent information related to traffic operations.

High-Impact Incident Notification

	July 2015	June 2015	July 2014
Freeway/Roadway Closures All Lanes Closed in One Direction	47	89	33
Lane Closures Only One Lane Open	17	15	72
Ramp Closures Freeway-to-Freeway	4	5	25
Total	68	109	130

Top Duration Incidents

Location	Date/Duration	Details
EB I-94 after Watervliet Road	July 23 / 627 min.	Crash
EB & WB M-153 (Ford Road) at Prospect Street	July 2 / 405 min.	Crash
NB & SB US-131 at Doerr Road	July 22 / 301 min.	Crash
EB I-94 at Rawsonville Road	July 6 / 293 min.	Crash
EB I-496 ramp to NB US-127	July 29 / 292 min.	Crash

The top duration **Incident** this month occurred along **I-94** and lasted **627** minutes, compared to the average duration of **33.0** minutes (average of all STOC managed events).

Number of Incidents Per County